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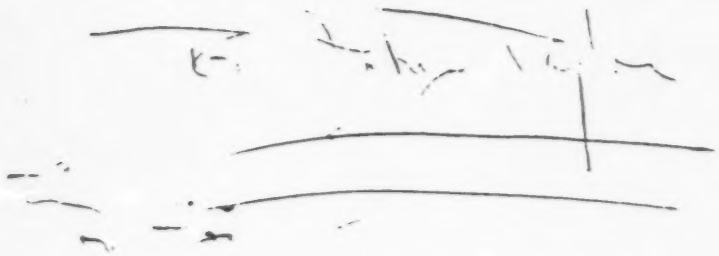

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RESULTS OF THE 1987 SASKATCHEWAN TOP MANAGEMENT WORKSHOPS

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INTRODUCTION

This paper reports production and cost data from the Spring, 1986 Top Management Workshops held throughout Saskatchewan. These data represent typical well-managed Saskatchewan grain farms and can be used as benchmark costs in assessing farm businesses cost efficiency and for forward planning purposes. This report reviews 1) machine use and cost patterns, 2) machine system costs and 3) production costs for various crops for the brown, dark brown and black soils of Saskatchewan.

The Top Management Workshops

Top Management workshops are held throughout the province during the winter months. In 1987, 108 farmers participated in the workshops in a total of 13 workshops located at the following locations:

1. N. Battleford,
2. Tisdale,
3. Wynyard,
4. Canora,
5. Strasbourg,
6. Ft QuAppele,
7. Moose Jaw,
8. Swift Current,
9. Kindersley,
10. Rosetown,
11. Kerrobert,
12. Saskatoon, and
13. Davidson.

Most of the 1987 Top Management participants were straight crop farms; however a surprising number had a few beef cows; only several featured intensive livestock operartions.

Table 1: Summary of Top Management Participants, 1987

Farm Type	Number of Farms
Crop	66
Mixed Livestock	42

First-year participants are asked to attend a meeting explaining the input forms. Completing the input forms takes considerable time and effort on the part of the participating first-year farmers. In general, as much as 10 to 12 hours are spent thinking about the next five years and filling out the forms. The Top Management team visits each workshop location and collects the first-year farm data forms, assisting individuals with problems or questions. Returning farmers are mailed last year's data forms for updating. These are either directly mailed back to the University where their data base is updated, or, if there are problems, the farmer attends an individual data collection meeting. The completed forms are returned to the University where the data are entered on microcomputers.

A one-day workshop follows, devoted to the explanation of the output and the analysis of current business performance. Subsequently, in 2-hour individual sessions, participants have a chance to "fine tune" their farm data and to examine 2 or 3 "what if" situations in terms of farm cash flows, income taxes paid, net worth and machinery use over a five-year period.[1]

[1] A "what if" situation may be examining the consequences of buying more land or changing the crop rotation.

Descriptive Statistics

The number of observations contained in a group is represented by "No Obs". The statistics reported for each group include minimum (Min), maximum (Max), the average or mean, and standard deviation (StDev).

Untruncated Versus Truncated Sample Distributions

The statistics are reported for both the untruncated and truncated sample distributions. The latter are defined by observations falling within one standard deviation of the mean of the untruncated distribution mean. The truncated distribution includes approximately two-thirds of the sample data and better represents typical use or costs. Note that the truncation is performed on a variable by variable basis, not on a single criterion. Thus, not all variables may include the same set of observations or the same number of observations.

Low Cost Versus High Cost Groups

Where there are sufficient numbers, low and high cost groups are formed based on the mean average total cost (ATC). The individual cost variables of the low cost group are based on the group of observations whose ATC is less than the sample mean ATC; the high cost group consists of those observations whose ATC is greater than the sample mean ATC. Because some individual costs may be correlated, the truncated sample distribution, may tend to be biased in expressing typical cost ranges; the low and high ATC groups avoid this problem. In addition, the relative importance of the various cost variables can be reviewed by comparing the corresponding means.

Data Limitations

Several major limitations exist in the data. First, where the group composition varies between the various enterprises, the fixed costs between these enterprises may not be comparable, although direct operating costs are comparable. This is due to the procedure used to allocate fixed costs. The capital recovery charges (CRC) associated with indirectly used machines and management charges are allocated to the various enterprises according to their relative direct costs. Thus, high-cost crops such as canola will be assigned a proportionately larger fixed cost; and lower-cost crops such as wheat on fallow will be assigned a corresponding lower amount. This may be troublesome in comparing stubble versus fallowed crops because they are not grown by the same groups of farmers.

Secondly, where numbers are small, costs may be unduly influenced by a few high-cost or low-cost producers. This is particularly true for the brown soil zones. Finally, these are planning data for 1987; while most planned operating expenses are very close to actual expenses, actual yields, of course, will vary.

SECTION 1: FARM SIZE, AND LAND TENURE

Farm size and land tenure is a crucial variable influencing farm viability and rural development patterns. The distribution of farms by acreages of total land and land owned, cash leased or crop shared is presented in Table 2. Note that there are relatively few farms below 600 tillable acres--only two farms out of a total of 105 farms. Most farms are based on 800 to 1400 tillable acres, although there are

a significant number of farms tilling 2000 acres or more.

The frequency of the farms by the proportion of total land rented versus owned is presented in Table 3. In general, most farms report some leased land: 44 farms report some land as cash leased and 58 farms report some land as leased on a crop share basis. Only 22 farms totally own all the land that they farm. Even though a relatively large number of farms rent land, rented land generally accounts for less than 30% of the total tillable acres (Table 4) as most farmers rent relatively small parcels, typically 160 to 320 acres. Nevertheless, there are a significant number of farms who rent very large parcels of more than 600 tillable acres.

In general, it would be expected that as farm size increases, that the farm operator would seek external ownership of land. While farm numbers are too few to be conclusive, there does not seem to be any clear change in the relationship between farm size and rented land above 640 acres--most farms own from 55 to 65% of their tillable acres.

Table 2: Frequency Distribution of Top Management Participants by Farm Size and Land Tenure, 1987

Acres	Total Farm	Owned	Cash Leased	Crop Shared
	(Number of Observations)			
0	0	1	56	42
200	0	2	14	14
400	1	10	9	11
600	1	25	6	10
800	11	15	6	7
1000	11	12	5	6
1200	19	12	3	7
1400	15	6	3	3
1600	7	7	3	0
1800	5	3	0	1
2000	9	2	0	1
2200	3	1	0	2
2400	5	3	0	0
2600	4	1	0	0
2800	3	1	0	1
3000	2	1	0	0
3200	1	0	0	0
3400	2	0	0	0
3600	1	0	0	0
3800	1	0	0	0
4000	1	0	0	0
>4000	3	2	0	0

Table 3: Frequency Distribution of the Relative Proportion of Owned, Cash-Leased and Crop-Shared Land, Top Management, 1987

Percentage Of Total Farm	Owned	Cash Leased	Crop Shared
(%)	(No of Observations)		
0	2	56	42
10	1	9	7
20	2	9	9
30	12	11	9
40	10	5	6
50	10	4	10
60	15	3	10
70	10	6	5
80	12	1	4
90	9	0	1
100	22	1	2

Table 4: Frequency Distribution of the Relative Proportion of Owned, Cash-Leased and Crop-Shared Land, by Size of Farm, Top Management, 1987

Class Range		Total	Mean	Proportion of:		
Lower Limit	Upper Limit	Number	Size	Owned	Cash Leased	Crop Shared
(acres)		(Number)	(acres)		(%)	
10	to 639	3	459	89.2	0.0	11.8
640	959	18	789	58.8	24.8	16.4
960	1279	32	1,143	67.0	9.7	24.3
1280	1599	11	1,429	57.2	11.2	31.6
1600	1919	12	1,758	55.0	4.4	40.6
1920	2239	7	2,035	54.9	18.6	27.5
2240	2559	7	2,389	61.1	25.0	13.9
2560	2879	6	2,733	48.1	22.4	29.5
2880	15000	9	4,979	61.8	20.4	17.8
Mean			1,725	62.3		

Table 5: Current Land Values and Property Taxes, by Soil Zone, Top Management Particpants, 1987a

	Brown Soils			Dark Brown Soils			Black Soils		
	Purchase Price	Current Market Value	Property Taxes	Purchase Price	Current Market Value	Property Taxes	Purchase Price	Current Market Value	Property Taxes
				($ / acre)					
Untruncated									
Count	n = 135			n = 518			n = 408		
Min	10	125	1.04	0	3	0.00	0	39	0.00
Max	800	800	6.00	650	1200	5.50	900	1000	6.65
Mean	355	376	3.02	98	374	2.88	258	393	3.27
StDev	216	139	1.10	167	142	1.12	231	122	1.14
Truncated:									
Count	n = 78			n = 233			n = 144		
Min	167	278	1.92	0	240	1.78	46	300	2.15
Max	500	500	3.81	188	500	3.92	475	475	4.40
Mean	425	387	2.88	23	347	2.86	368	391	3.40

[a] n = number of fields

Table 6: Current Cash Rental Rates Paid, by Soil Zone, Top Management Particpants, 1987a

	Soil Zone		
	Brown	Dark Brown	Black
	($ / acre)		
Untruncated			
Count	n = 48	n = 89	n = 128
Min	9.15	5.95	6.25
Max	44.83	52.00	47.00
Mean	13.05	21.77	22.71
StDev	6.75	9.30	7.19
Truncated:			
Count	n = 43	n = 70	n = 84
Min	9.15	12.67	18.00
Max	16.00	31.00	28.00
Mean	10.93	23.22	23.48

[a] n = number of fields

Table 7: Current Crop Share Rental Rates, by Soil Zone, Top Management Particpants, 1987a

	Soil Zone		
	Brown	Dark Brown	Black
	(Tennant share as a % of Gross Returns)		
Untruncated			
Count	n = 119	n = 275	n = 144
Min	60.0%	14.0%	60.0%
Max	100.0%	100.0%	100.0%
Mean	66.9%	67.9%	69.1%
StDev	4.6%	8.0%	6.7%
Truncated:			
Count	n = 98	n = 245	n = 135
Min	67.0%	60.0%	64.0%
Max	70.0%	75.0%	75.0%
Mean	67.1%	67.7%	68.2%

[a] n = number of fields

SECTION 2: MACHINE USE PATTERNS AND COSTS

Participant tractor and combine annual use data are presented in Tables 9, 10 and 11 for owned machines. Data reported include unit horsepower, annual hours of use, age, repair costs, capital recovery charges and the cost per unit of use for the machines. The horsepower is defined as the manufacturer's PTO horsepower rating. Direct hours are based on hours of direct field time calculated from user-specified speed, field efficiency and machine width and do not include road time or hours spent in farmstead operations. The annual ownership cost is based on the depreciation and interest charges associated with investment capital recovery charges (CRC). Repairs are the annual farm repair charges allocated to the machine. The number of tractors or combines contained in a group is labelled by "No Obs". The statistics reported for each group includes the average or mean, minimum (Min), maximum (Max) and standard deviation (StDev). In order to better understand the differences between different ages of machines, three age categories of machines were delineated: early life cycle, mid-life cycle and late life cycle. The ages for each group are defined in the following Table 8.

Table 8: Age Groups by Machine Type

Life Cycle	Tractors	Combines
	(years)	
Early	0-5	0-4
Mid	6-10	5-9
Late	11-20	10-20

General Relationships Between Use Patterns and Costs

The total annual fixed costs of owning a machine include depreciation and interest charges (the capital recovery charge) or annual lease charge. Actual depreciation is estimated based on past studies by Schoney and Finner and Schoney and Brown. Depreciation is defined as the decline in fair market value over the calendar year and depends upon inflation on new machine prices, the machine category and the age of the machine being considered.

Average fixed costs of owning machines are defined as the total annual fixed cost which is the depreciation and interest charge (the capital recovery charge) or annual lease charge, divided by the annual number of acres or hours of use. As machine use increases, its fixed ownership cost is spread over more hours or acres, reducing the ownership cost per unit of use. Annual capital recovery charges decline with machine age because older machines (1) have lower values than newer ones, and therefore lower interest charges, and (2) older machines depreciate less per year.

2 Wheel Drive Tractors

2 wheel tractors have been divided into two size categories: under 100 HP and over 100 HP. Each category is subdivided into three life cycle groups according to the definitions in Table 8. Because the HP varies considerably between tractors, costs are reported as dollars per HP-hr, which is defined as one horsepower used for one hour.[2] In order to derive the cost for a given tractor size, the data

[2]For example a 100 HP tractor used for one hour, would generate 100 HP-hrs.

can be multiplied by the appropriate HP.[3]

[3]For example, if the repair cost was $.032 per HP-hr, then the repair cost for a 100 HP tractor would be 100 x $.032 = $3.30 per hour.

Table 9a: Use and Cost Patterns, 50-100 HP, 2-Wheel Drive Tractors, Top Management Workshops, 1987

	HP	Age	Total Annual Use	Repairs	Depr.	Interest	Depr. + Interest
		(years)	(hours)	********** ($/HP-hr) **********			
Early Life Cycle							
Untruncated:	No Obs. =		6				
Mean	77	3.0	223	0.032	0.073	0.193	0.266
StDev	12.1	1.83	152	0.019	0.063	0.207	0.269
Truncated:	No Obs. =		5				
Min	60	0.0	76	0.019	0.053	0.112	0.165
Max	90	5.0	269	0.048	0.074	0.177	0.235
Mean	77	3.0	162	0.032	0.062	0.149	0.211
StDev	12.1	1.83	73	0.013	0.009	0.027	0.032
Mid-Life Cycle							
Untruncated:	No Obs. =		11				
Mean	83	8.1	238	0.075	0.137	0.202	0.338
StDev	12.9	1.38	169	0.053	0.141	0.198	0.338
Truncated:	No Obs. =		7				
Min	63	6.0	90	0.037	0.017	0.036	0.053
Max	100	10.0	345	0.092	0.263	0.379	0.643
Mean	83	8.1	258	0.059	0.066	0.105	0.171
StDev	12.9	1.38	84	0.017	0.081	0.114	0.195
Late Life Cycle							
Untruncated:	No Obs. =		33				
Mean	80	15.1	180	0.054	0.048	0.082	0.130
StDev	14.3	3.26	116	0.035	0.047	0.075	0.121
Truncated:	No Obs. =		15				
Min	55	11.0	65	0.029	0.008	0.021	0.029
Max	100	20.0	284	0.088	0.071	0.116	0.173
Mean	80	15.1	147	0.054	0.035	0.066	0.101
StDev	14.3	3.26	59	0.018	0.022	0.031	0.050

Table 9b: Use and Cost Patterns, 100 HP and over, 2-Wheel Drive Tractors, Top Management Workshops, 1987

	HP	Age	Total Annual Use	Repairs	Depr.	Interest	Depr. + Interest
		(years)	(hours)	**********	($/HP-hr)		**********
Early Life Cycle							
Untruncated:	No Obs. =		37				
Mean	152	3.4	286	0.026	0.070	0.113	0.267
StDev	32.4	1.42	132	0.015	0.035	0.050	0.099
Truncated:	No Obs. =		16				
Min	110	0.0	163	0.011	0.046	0.077	0.124
Max	250	5.0	406	0.040	0.103	0.148	0.251
Mean	152	3.4	286	0.022	0.067	0.110	0.178
StDev	32.4	1.42	66	0.008	0.017	0.022	0.038
Mid-Life Cycle							
Untruncated:	No Obs. =		45				
Mean	139	7.9	274	0.036	0.042	0.071	0.112
StDev	25.8	1.50	120	0.023	0.023	0.044	0.065
Truncated:	No Obs. =		17				
Min	105	6.0	159	0.013	0.023	0.035	0.059
Max	235	10.0	392	0.050	0.059	0.101	0.147
Mean	139	7.9	261	0.030	0.037	0.060	0.099
StDev	25.8	1.50	71	0.012	0.011	0.020	0.029

Table 10a: Use and Cost Patterns, 100-145 HP, 4-Wheel Drive Tractors, Top Management Workshops, 1987

	HP	Age	Total Annual Use	Repairs	Depr.	Interest	Depr. + Interest
		(years)	(hours)	**********	($/HP-hr)		**********
Early Life Cycle							
Untruncated:	No Obs. =		5				
Min	80	0.0	155	0.000	0.05	0.077	0.131
Max	140	5.0	624	0.087	0.238	0.343	0.582
Mean	124	2.6	329	0.039	0.119	0.176	0.294
StDev	23.3	1.85	177	0.036	0.070	0.098	0.168

Table 10b: Use and Cost Patterns, over 145 HP, 4-Wheel Drive Tractors, Top Management Workshops, 1987

	HP	Age	Total Annual Use	Repairs	Depr.	Interest	Depr. + Interest
		(years)	(hours)	********** ($/HP-hr) **********			
Early Life Cycle							
Untruncated:	No Obs. =		28				
Mean	227	2.9	284	0.024	0.074	0.120	0.194
StDev	59.7	1.51	126	0.017	0.037	0.045	0.080
Truncated:	No Obs. =		11				
Min	150	1.0	162	0.008	0.045	0.096	0.141
Max	360	5.0	356	0.038	0.095	0.162	0.231
Mean	227	2.9	254	0.021	0.068	0.122	0.190
Mid-Life Cycle							
Untruncated:	No Obs. =		21				
Mean	202	8.2	235	0.038	0.051	0.081	0.132
StDev	37.7	1.53	135	0.016	0.029	0.044	0.072
Truncated:	No Obs. =		16				
Min	150	6.0	100	0.026	0.023	0.042	0.069
Max	280	10.0	330	0.048	0.061	0.099	0.157
Mean	202	8.2	230	0.036	0.042	0.068	0.112
StDev	37.7	1.53	71	0.008	0.014	0.021	0.033
Late Life Cycle							
Untruncated:	No Obs. =		8				
Mean	199	12.6	164	0.042	0.050	0.086	0.136
StDev	22.5	1.32	64	0.032	0.035	0.053	0.087
Truncated:	No Obs. =		3				
Min	170	11.0	142	0.015	0.025	0.046	0.071
Max	240	15.0	201	0.056	0.065	0.084	0.149
Mean	199	12.6	176	0.033	0.044	0.064	0.108

Self-Propelled Combines

Combines have been divided into self-propelled and pull-type categories.

Table 11a: Use and Cost Patterns, Small, Self- Propelled Combines, Top Management Workshops, 1987

	HP	Capacity	Age	Total Annual Use	Repairs	Deprec.	Interest	Interest + Deprec.
		(bu/hr)	(yrs)	Use	($/bu)	($/bu)	($/bu)	($/bu)
Early Life Cycle								
Untruncated:	No Obs. =		5					
Mean	135	307	3.2	131	0.042	0.196	0.177	0.373
StDev	7.9	26	1.17	59	0.035	0.087	0.079	0.165
Truncated:	No Obs. =		3					
Min	125	282	1.0	84	0.012	0.173	0.145	0.319
Max	145	350	4.0	155	0.061	0.257	0.244	0.500
Mean	135	315	3.0	119	0.031	0.217	0.195	0.411
Mid-Life Cycle								
Untruncated:	No Obs. =		11					
Mean	118	284	7.1	131	0.039	0.130	0.116	0.245
StDev	14.4	38	1.68	76	0.025	0.084	0.077	0.160
Truncated:	No Obs. =		3					
Min	85	200	5.0	84	0.015	0.073	0.074	0.154
Max	140	350	9.0	150	0.064	0.121	0.108	0.229
Mean	118	280	7.6	116	0.047	0.098	0.088	0.186
Late Life Cycle								
Untruncated:	No Obs. =		11					
Mean	108	241	15.3	127	0.034	0.076	0.067	0.143
StDev	19.7	50	4.00	84	0.022	0.134	0.119	0.252
Truncated:	No Obs. =		2					
Min	70	150	10.0	89	0.019	0.009	0.008	0.017
Max	140	300	20.0	172	0.026	0.028	0.025	0.054
Mean	108	232	16.0	131	0.023	0.019	0.017	0.036

Table 11b: Use and Cost Patterns, Large, Self- Propelled Combines, Top Management Workshops, 1987

	HP	Capacity	Age	Total Annual Use	Repairs	Deprec.	Interest	Interest + Deprec.
		(bu/hr)	(yrs)	Use	($/bu)	($/bu)	($/bu)	($/bu)
Early Life Cycle								
Untruncated:	No Obs. =		15					
Mean	184	441	2.1	129	0.020	0.143	0.140	0.282
StDev	33.6	96	1.31	53	0.021	0.065	0.056	0.120
Truncated:	No Obs. =		3					
Min	150	300	0.0	79	0.004	0.123	0.109	0.232
Max	240	500	4.0	137	0.019	0.204	0.181	0.385
Mean	184	399	2.3	111	0.011	0.163	0.145	0.308
Mid-Life Cycle								
Untruncated:	No Obs. =		9					
Mean	166	386	6.6	105	0.029	0.107	0.101	0.207
StDev	17.8	58	1.26	26	0.010	0.045	0.042	0.086
Truncated:	No Obs. =		2					
Late Life Cycle								
Untruncated:	No Obs. =		2					

SECTION 3: MACHINE SYSTEM COSTS

Costs of operating machine operations reported in Table 12 include discing, cultivating, rodweeding, seeding, harrowing, spraying, swathing, banding and spreading granular fertilizer or herbicide spreading.[4] The average total operation cost is the sum of individual variable costs and the allocated fixed costs for the machines used in the operation divided by the total amount of use. Variable costs include labour, fuel, oil, grease and repair charges while fixed costs include capital recovery and insurance charges.

Average total costs for a given machine operation can vary considerably primarily due to ownership charges; most of the total cost, usually 60-75 percent is generated by the capital recovery charge (CRC) or ownership cost. Average fixed cost can be reduced by either increasing the annual use or reducing the CRC through reducing machinery investments. This can be achieved by trading less often, careful machine sizing and avoiding ownership of unnecessary equipment.

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[4] Machine systems which are based on processing rates such combining, hauling grain to the bin and hauling grain to market are crop specific and, therefore, not reported. However, the costs of combining can be derived from the individual self propelled combine costs reported in Tables 5a and 5b.

Table 12a. Disc Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	27									
Min	4.50	7.69	0.32	0.43	0.00	0.58	0.55	NA	1.13	0.00	0.00	0.00	1.54
Max	5.50	14.29	1.17	1.55	1.59	2.89	1.98	NA	5.35	3.77	4.51	8.28	13.43
Mean	5.17	11.83	0.66	0.93	0.68	1.50	0.98	NA	2.59	1.09	1.28	2.38	5.34
StDev	0.33	2.06	0.24	0.33	0.41	0.63	0.33	NA	1.02	0.84	0.99	1.81	2.54
	Low Cost:		No. Obs. =	32									
Min	4.00	3.70	0.21	0.31	0.00	0.58	0.55	0.00	1.13	0.00	0.00	0.00	1.54
Max	6.00	20.00	1.36	1.55	1.39	2.89	2.97	0.00	5.35	2.73	2.63	5.36	7.02
Mean	5.15	12.11	0.62	0.82	0.62	1.43	1.05	0.00	2.48	0.89	1.02	1.91	4.39
	High Cost:		No. Obs. =	11									
Min	3.00	2.44	0.43	0.57	0.33	1.21	0.77	0.00	2.04	0.49	0.58	1.07	7.15
Max	5.50	14.29	2.20	3.19	4.69	7.88	4.51	0.00	12.39	17.33	18.62	35.95	38.93
Mean	4.14	7.42	1.11	1.60	1.83	3.44	1.98	0.00	5.42	4.39	4.86	9.25	14.67

Table 12b. Cultivating Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	133									
Min	5.00	11.11	0.26	0.33	0.15	0.59	0.44	NA	1.14	0.29	0.43	0.79	2.38
Max	6.00	20.00	0.65	0.92	0.86	1.66	0.99	NA	2.61	1.89	2.09	3.93	6.04
Mean	5.34	15.86	0.42	0.57	0.45	1.02	0.68	NA	1.74	0.90	1.07	2.02	3.97
	Low Cost:		No. Obs. =	115									
Min	4.50	7.69	0.02	0.02	0.03	0.09	0.33	0.00	0.90	0.08	0.09	0.17	1.16
Max	8.00	33.33	1.03	1.39	1.15	2.08	1.43	0.00	3.16	1.49	1.47	2.78	4.22
Mean	5.38	17.02	0.43	0.57	0.44	1.01	0.72	0.00	1.73	0.65	0.78	1.43	3.16
	High Cost:		No. Obs. =	78									
Min	3.50	3.45	0.15	0.18	0.15	0.53	0.22	0.00	0.97	0.28	0.34	0.62	4.24
Max	8.00	50.00	1.16	1.68	2.26	3.37	3.19	0.00	6.16	6.75	6.86	13.61	17.91
Mean	5.31	17.72	0.50	0.69	0.61	1.30	0.78	0.00	2.09	1.77	1.97	3.73	5.32

Table 12c. Rodweeding Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs.	39									
Min	4.80	14.29	0.14	0.22	0.13	0.36	0.55	NA	0.91	0.00	0.00	0.00	0.91
Max	6.00	20.00	0.39	0.57	0.48	1.00	0.66	NA	1.67	2.73	2.68	5.36	6.74
Mean	5.37	17.98	0.25	0.34	0.27	0.58	0.61	NA	1.24	0.80	0.90	1.70	3.00
StDev	0.42	2.08	0.08	0.10	0.09	0.17	0.05	NA	0.23	0.56	0.58	1.12	1.15
	Low Cost:		No. Obs. =	40									
Min	4.00	10.00	0.01	0.01	0.03	0.10	0.33	0.00	0.65	0.00	0.00	0.00	0.91
Max	8.00	33.33	0.57	0.89	0.99	1.67	1.10	0.00	2.33	1.11	1.61	2.72	3.61
Mean	5.31	18.89	0.25	0.35	0.32	0.67	0.61	0.00	1.28	0.58	0.71	1.29	2.57
	High Cost:		No. Obs. =	13									
Min	5.00	12.50	0.08	0.10	0.14	0.37	0.33	0.00	0.85	0.74	0.99	1.73	3.77
Max	7.00	33.33	0.90	1.31	0.72	2.00	0.88	0.00	2.55	11.68	10.37	22.05	23.11
Mean	5.54	20.39	0.31	0.44	0.32	0.76	0.58	0.00	1.34	2.90	2.78	5.67	7.02

Table 12d. Disk Seeding Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	30									
Min	4.75	9.09	0.26	0.36	0.18	0.89	0.77	NA	1.73	0.87	0.83	1.33	3.89
Max	5.40	14.29	0.71	0.94	2.05	2.84	1.21	NA	3.89	2.17	2.59	4.43	6.96
Mean	5.00	12.05	0.47	0.59	0.87	1.52	0.93	NA	2.50	1.31	1.53	2.85	5.40
StDev	0.11	1.66	0.13	0.16	0.50	0.44	0.13	NA	0.49	0.34	0.46	0.79	0.87
	Low Cost:		No. Obs. =	30									
Min	4.00	5.00	0.01	0.02	0.07	0.20	0.55	0.00	1.30	0.00	0.00	0.00	1.99
Max	6.00	20.00	0.77	1.09	1.80	2.24	2.20	0.00	3.89	1.87	2.59	4.05	5.89
Mean	5.07	11.96	0.45	0.60	0.79	1.39	0.99	0.00	2.38	1.05	1.24	2.29	4.67
	High Cost:		No. Obs. =	16									
Min	4.20	6.25	0.19	0.31	0.25	0.99	0.55	0.00	1.54	0.91	0.89	1.80	6.30
Max	5.50	20.00	1.33	1.92	6.04	7.96	1.76	0.00	8.73	4.27	4.79	8.96	13.16
Mean	5.22	11.45	0.55	0.78	1.60	2.37	1.04	0.00	3.41	2.23	2.69	4.91	8.33

Table 12e. Press Drill Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	33									
Min	4.50	6.67	0.30	0.39	0.59	1.19	0.66	NA	2.26	0.14	0.34	0.58	3.89
Max	5.50	12.50	0.74	1.04	2.56	3.36	1.65	NA	4.96	2.69	3.70	5.61	10.78
Mean	5.09	10.12	0.51	0.68	1.33	2.03	1.05	NA	3.22	1.35	1.65	2.93	6.65
StDev	0.29	1.82	0.14	0.21	0.52	0.61	0.26	NA	0.72	0.74	0.81	1.40	1.82
	Low Cost:		No. Obs. =	32									
Min	4.00	4.35	0.00	0.00	0.20	0.61	0.44	0.00	1.32	0.14	0.16	0.30	2.98
Max	7.20	25.00	1.16	1.40	3.13	4.04	2.53	0.00	5.69	2.16	2.45	4.44	7.56
Mean	5.16	10.72	0.50	0.68	1.27	1.95	1.19	0.00	3.14	1.11	1.24	2.36	5.50
	High Cost:		No. Obs. =	19									
Min	4.00	2.63	0.18	0.27	0.45	1.38	0.77	0.00	2.26	0.22	0.23	0.45	7.80
Max	6.00	14.29	1.21	1.75	5.22	6.00	4.18	0.00	8.86	8.75	8.32	16.01	21.99
Mean	4.86	9.03	0.56	0.78	1.96	2.74	1.63	0.00	4.37	3.43	3.41	6.84	11.20

Table 12f. Harrowing Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	58									
Min	4.75	20.00	0.05	0.06	0.02	0.21	0.33	NA	0.53	0.04	0.10	0.09	0.72
Max	6.50	33.33	0.30	0.41	0.45	0.79	0.55	NA	1.26	1.40	1.05	2.58	3.45
Mean	5.56	28.95	0.15	0.20	0.20	0.42	0.39	NA	0.83	0.42	0.45	0.87	1.78
StDev	0.51	4.88	0.06	0.08	0.12	0.15	0.07	NA	0.19	0.30	0.23	0.56	0.66
	Low Cost:		No. Obs. =	56									
Min	4.00	14.29	0.04	0.06	0.02	0.14	0.11	0.00	0.36	0.04	0.05	0.09	0.59
Max	10.00	100.00	0.44	0.60	1.06	1.14	0.77	0.00	1.47	0.79	0.79	1.56	2.13
Mean	6.00	33.62	0.14	0.19	0.19	0.39	0.37	0.00	0.76	0.31	0.35	0.66	1.42
	High Cost:		No. Obs. =	25									
Min	4.00	10.00	0.06	0.09	0.02	0.26	0.22	0.00	0.48	0.16	0.33	0.49	2.19
Max	7.00	50.00	1.09	1.64	1.53	2.08	1.10	0.00	2.41	5.23	2.23	6.75	7.71
Mean	5.17	28.12	0.24	0.33	0.38	0.71	0.46	0.00	1.17	1.40	1.11	2.51	3.68

Table 12g. Spraying Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	104									
Min	4.00	16.67	0.00	0.00	0.09	0.11	0.22	NA	0.34	0.00	0.00	0.00	0.54
Max	7.50	50.00	0.27	0.37	0.40	0.74	0.66	NA	1.36	1.04	0.95	1.90	3.03
Mean	5.53	31.25	0.10	0.14	0.24	0.39	0.40	NA	0.79	0.31	0.34	0.65	1.48
StDev	0.72	11.47	0.06	0.09	0.09	0.15	0.13	NA	0.23	0.22	0.23	0.45	0.56
	Low Cost:		No. Obs. =	82									
Min	2.00	14.29	0.00	0.00	0.00	0.00	0.11	0.00	0.16	0.00	0.00	0.00	0.16
Max	15.00	100.00	0.37	0.44	0.60	0.71	0.77	0.00	1.23	0.59	0.64	1.23	1.77
Mean	6.85	34.24	0.10	0.13	0.21	0.35	0.38	0.00	0.73	0.21	0.24	0.44	1.17
	High Cost:		No. Obs. =	41									
Min	4.00	5.00	0.01	0.02	0.03	0.15	0.11	0.00	0.37	0.27	0.23	0.50	1.82
Max	24.00	100.00	1.41	2.04	0.99	3.03	2.20	0.00	5.23	5.26	4.15	7.99	9.70
Mean	6.26	32.69	0.21	0.29	0.34	0.62	0.51	0.00	1.13	0.99	0.91	1.90	3.04

Table 12h. Seathing Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	44									
Min	4.00	6.25	0.06	0.09	0.01	0.24	0.66	NA	1.06	0.08	0.07	0.15	1.61
Max	6.00	12.50	0.68	1.05	0.53	1.28	2.31	NA	3.64	3.43	3.00	6.43	10.66
Mean	5.16	9.65	0.31	0.43	0.17	0.63	1.23	NA	1.88	1.31	1.24	2.54	4.88
StDev	0.59	2.17	0.17	0.24	0.13	0.27	0.42	NA	0.60	0.85	0.74	1.58	2.17
	Low Cost:		No. Obs. =	46									
Min	3.00	4.55	0.06	0.09	0.01	0.16	0.66	0.00	1.06	0.08	0.07	0.15	1.61
Max	7.00	16.67	0.78	1.05	1.13	1.63	2.42	0.00	3.64	2.22	2.26	4.26	5.72
Mean	5.29	9.96	0.29	0.40	0.20	0.60	1.22	0.00	1.82	0.97	0.97	1.94	3.76
	High Cost:		No. Obs. =	20									
Min	1.10	2.04	0.10	0.11	0.03	0.32	0.77	0.00	1.09	1.03	1.06	2.09	5.38
Max	7.00	14.29	1.82	2.95	1.18	3.18	5.39	0.00	8.57	24.02	22.75	46.77	47.03
Mean	4.31	7.53	0.63	0.91	0.38	1.28	2.38	0.00	3.37	3.95	3.58	7.53	10.90

Table 121. Bending Machine System Performance and Cost Parameters, Top Management Participants, 1987

	Speed (mi/hr)	Rate (ac/hr)	Fuel Used	Fuel Cost	Repairs	Total Cash Cost	Labor Charge	Other Costs	Total Variable Cost	Deprec	Interest	Total Fixed Cost	Average Total Cost
						($/acre)							
	Truncated:		No. Obs. =	52									
Min	5.00	12.50	0.27	0.39	0.08	0.62	0.55	NA	1.35	0.16	0.43	0.53	2.24
Max	6.00	20.00	0.70	0.98	1.12	1.95	0.99	NA	2.71	2.36	2.59	4.97	7.15
Mean	5.43	16.30	0.45	0.63	0.46	1.10	0.72	NA	1.90	1.03	1.23	2.28	4.19
StDev	0.43	2.80	0.10	0.12	0.25	0.29	0.14	NA	0.34	0.57	0.57	1.14	1.33
	Low Cost:		No. Obs. =	42									
Min	4.00	6.25	0.11	0.16	0.00	0.19	0.33	0.00	0.63	0.00	0.00	0.00	0.74
Max	8.00	33.33	1.08	1.35	1.86	2.60	1.76	0.00	3.15	1.50	1.80	2.82	4.63
Mean	5.42	16.51	0.46	0.64	0.43	1.07	0.73	0.00	1.79	0.59	0.72	1.31	3.10
	High Cost:		No. Obs. =	30									
Min	4.00	6.25	0.18	0.24	0.16	0.62	0.44	0.00	1.19	1.15	1.21	2.36	4.99
Max	6.00	25.00	1.34	1.70	2.10	3.63	1.76	0.00	4.29	5.83	5.50	11.33	15.62
Mean	5.28	15.70	0.56	0.76	0.84	1.60	0.78	0.00	2.37	2.32	2.53	4.85	7.22

SECTION 4: COSTS OF PRODUCING CROPS

The following section reports the cost of producing various crops based on the Top Management participant crop budgets. The various cost categories are defined in Appendix A. The number of observations for each crop on fallow or stubble is reported by soil zone in Table 13. As can be expected the most common crop on all three soil zones is spring wheat followed by barley and canola. Other crops grown include winter wheat, oats, rye, canary grass, flax, peas, lentils, mustard and safflower. A total of 23 crop budgets are reported in Section 4.

Table 13: Number of Observations, by Crop Recipe and Soil Zone, Top Management Participants, 1987

ID	Number	Soil Type		
		Brown	Dark Brown	Black
		(number)		
1	Wheat on Fallow	23	50	18
2	Wheat on Stubble	15	63	44
3	Barley on Fallow	3	19	4
4	Barley on Stubble	7	20	40
5	Canola on Fallow	0	12	18
6	Canola on Stubble	0	2	27
7	WWheat on Fallow	0	0	2
8	WWheat on Stubble	6	2	2
9	Fallow	16	42	31
10	Chem Fallow	0	0	0
11	Custom operations	3	1	1
12	Safflower on Fallow	0	0	0
13	Safflower on Stubble	1	0	0
14	Grass	0	1	1
15	Oats on Fallow	1	2	3
16	Oats on Stubble	2	5	9
17	Rye on Fallow	0	2	0
18	Rye on Stubble	3	1	1
19	Canary Grass on Fallow	1	0	0
20	Canary Grass on Stubble	0	7	2
21	Flax on Fallow	1	3	2
22	Flax on Stubble	1	0	20
23	Peas on Fallow	1	0	1
24	Peas on Stubble	1	0	15
26	Lentils on Stubble	4	2	9
27	Lentils on Fallow	2	0	0
28	Alfalfa Hay	0	0	0

Use Intensity

The production cost estimates are divided into input intensity groups based on their total fertilizer, herbicide and insecticide use. Each soil zone and crop was analyzed separately and the following divisions in Table 14 gave the best results.

Table 14: Input Intensity Definitions, Top Management Data, 1987

Use Intensity	Range	Soil					
		Brown		Dark Brown		Black	
		Fallow	Stubble	Fallow	Stubble	Fallow	Stubble
		($/acre of fertilizer and chemicals)					
Low	Min	0	5	0	5	0	7
	Max	5	8	10	15	12	25
Medium	Min	5	18	10	15	12	25
	Max	13	25	18	25	20	36
High	Min	13	25	18	25	20	36
	Max	20	40	40	60	30	70

Low and High Cost Groups

The observations were divided into low and high cost groups according to their relative cost position to the group average total cost per bushel. The relative asymmetry of the distribution can be evaluated by comparing the relative number of observations in each group.

Table 15a: Top Management Yields and Directly Allocated Costs of Production, **Wheat on Fallow, Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	23																
Mean	284	29.5	4.96	4.42	7.03	0.08	4.06	4.44	0.00	3.29	2.11	30.77	7.61	1.54	39.92	7.69	23.04	24.12	54.86	94.78
Std Dev	290	4.06	1.22	3.75	4.98	0.28	1.40	2.47	0.00	1.93	3.02	10.21	2.84	0.51	10.79	2.55	12.18	6.17	15.27	21.96
Truncated:			No Obs =	13																
Min	31	26.0	3.75	4.69	2.64	0.00	2.73	2.34	NA	1.66	0.00	21.84	5.82	1.09	29.90	5.46	13.57	18.62	44.12	75.61
Max	490	33.00	6.00	7.65	11.86	0.00	5.45	5.66	NA	5.00	5.01	35.34	9.78	1.77	49.29	8.84	33.84	29.95	67.42	116.71
Mean	191	29.9	4.78	6.05	5.97	0.00	4.05	3.57	NA	3.69	0.96	28.04	6.87	1.40	37.50	7.01	21.44	24.94	53.82	95.54
Low Intensity:			No Obs =	8																
Mean	328	26.9	4.98	0.00	3.40	0.00	4.18	3.96	0.00	2.68	2.58	22.50	7.79	1.13	31.41					
Medium Intensity:			No Obs =	6																
Mean	310	28.8	3.95	6.34	3.73	0.00	4.56	2.57	0.00	2.38	2.99	26.52	8.56	1.33	36.41					
High Intensity:			No Obs =	9																
Mean	228	32.3	5.62	7.07	12.47	0.21	3.63	6.10	0.00	4.45	1.10	40.96	6.82	2.05	49.83					
Low Cost:			No Obs =	10																
Mean	235	30.5	4.53	3.22	6.61	0.00	3.67	3.29	0.00	2.42	1.33	25.35	7.23	1.27	33.85	6.34	18.42	21.29	46.04	79.88
High Cost:			No Obs =	13																
Mean	322	28.7	5.30	5.34	7.36	0.15	4.36	5.31	0.00	3.97	2.71	34.95	7.90	1.75	44.60	8.742	6.60	26.31	61.64	106.24

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 15b: Top Management Yields and Directly Allocated Costs of Production, Wheat on Stubble, Brown Soil Zones

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	15															
Mean	226	21.7	4.97	11.31	8.94	0.13	3.21	4.44	0.00	3.45	0.61	37.52	6.24	1.88	45.64	9.38	20.11	23.07	52.56	98.20
Std Dev	145	5.65	1.07	6.00	4.89	0.50	0.80	2.84	0.00	1.65	0.93	11.54	1.42	0.58	11.83	2.89	9.32	6.86	14.70	21.47
Truncated:			No Obs =	9															
Min	100	18.0	4.00	6.30	4.50	0.00	2.54	1.61	NA	3.25	0.00	27.03	4.89	1.35	34.10	6.76	12.03	16.30	43.00	77.74
Max	320	25.00	6.00	15.63	12.80	0.00	3.80	6.03	NA	5.06	1.28	47.97	7.28	2.40	55.15	11.99	28.58	27.63	66.99	118.85
Mean	195	22.2	4.88	11.82	8.41	0.00	3.14	3.72	NA	4.34	0.18	37.29	6.20	1.86	45.13	9.32	22.44	22.05	57.28	103.92
Low Intensity:			No Obs =	4															
Mean	112	19.5	5.68	8.03	7.50	0.00	3.26	4.35	0.00	3.61	0.43	32.85	6.24	1.64	40.74					
Medium Intensity:			No Obs =	5															
Mean	310	22.0	4.72	13.43	7.34	0.00	2.69	3.20	0.00	4.06	0.65	37.29	5.57	1.86	44.73					
High Intensity:			No Obs =	4															
Mean	276	26.1	4.66	17.60	15.77	0.50	3.46	5.80	0.00	3.95	0.50	52.23	6.40	2.61	61.24					
Low Cost:			No Obs =	12															
Mean	239	23.6	4.70	10.43	8.75	0.00	3.28	4.43	0.00	3.30	0.25	35.71	6.36	1.79	43.85	8.93	20.47	23.55	52.94	96.80
High Cost:			No Obs =	3															
Mean	174	14.2	6.03	14.84	9.70	0.67	2.94	4.48	0.00	4.04	2.03	44.78	5.75	2.24	52.78	11.20	18.65	21.17	51.02	103.79

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 15c: Top Management Yields and Directly Allocated Costs of Production, Barley on Stubble, Brown Soil Zones

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	7																
Mean	265	37.4	3.45	10.67	6.20	0.29	3.62	4.87	1.00	2.43	0.82	34.76	7.47	1.74	43.97	8.69	21.43	18.39	48.50	92.48
Std Dev	398	12.12	0.81	8.08	3.68	0.70	0.98	2.86	2.45	1.66	0.96	8.34	3.09	0.42	8.26	2.08	11.93	6.47	17.33	20.83
Truncated:			No Obs =	3																
Min	50	40.0	3.60	4.69	2.64	0.00	2.71	2.18	0.00	1.99	0.00	31.99	5.41	1.60	38.67	8.00	13.12	16.37	32.06	77.54
Max	153	40.0	4.00	18.00	9.10	0.00	3.85	4.59	0.00	4.00	1.55	39.51	9.67	1.98	51.16	9.38	24.20	24.42	50.48	102.82
Mean	103	40.0	3.78	13.93	5.77	0.00	3.27	3.49	0.00	3.40	0.31	36.82	6.99	1.84	43.86	9.21	18.36	20.43	42.02	91.32
Low Intensity:			No Obs =	1																
Medium Intensity:			No Obs =	2																
High Intensity:			No Obs =	2																
Low Cost:			No Obs =	4																
Mean	403	47.5	3.69	9.43	6.15	0.00	4.14	5.98	0.00	2.37	0.53	33.22	8.38	1.66	43.46	8.30	27.48	19.70	55.48	98.94
High Cost:			No Obs =	3																
Mean	82	24.0	3.12	12.33	6.26	0.67	2.93	3.39	2.33	2.50	1.21	36.82	6.00	1.84	44.66	9.21	13.35	16.64	39.20	83.86

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 15d: Top Management Yields and Directly Allocated Costs of Production, Winter Wheat on Stubble, Brown Soil Zone

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	6																
Mean	121	24.8	3.51	14.19	2.62	0.70	3.77	4.93	0.00	2.87	1.02	33.93	8.30	1.70	43.93	8.48	20.33	24.36	53.17	97.10
Std Dev	97	6.54	0.43	2.39	1.31	1.57	0.96	2.24	0.00	1.74	1.44	4.75	2.31	0.24	6.06	1.19	13.86	10.62	21.94	23.22
Truncated:			No Obs =	3																
Min	39	20.0	3.30	11.85	1.48	0.00	3.33	3.85	NA	1.54	0.00	29.80	6.03	1.49	40.34	7.45	9.47	15.77	32.09	92.38
Max	170	30.00	3.81	14.44	3.23	0.00	4.44	5.59	NA	4.00	0.01	37.99	9.78	1.90	49.80	9.50	32.89	27.76	67.29	116.07
Mean	82	26.0	3.56	12.91	2.09	0.00	3.85	4.72	NA	2.95	0.00	34.94	7.31	1.75	46.31	8.74	17.78	23.43	44.73	101.38
Low Intensity:			No Obs =	2																
Medium Intensity:			No Obs =	4																
Mean	82	28.3	3.57	15.21	3.01	1.05	4.13	5.04	0.00	3.11	0.82	36.19	9.46	1.81	47.46					
High Intensity:			No Obs =	0																
Low Cost:			No Obs =	4																
Mean	60	27.8	3.53	15.39	2.57	0.00	4.24	4.63	0.00	2.50	0.82	34.14	8.19	1.71	44.04	8.54	25.66	26.12	60.31	104.34
High Cost:			No Obs =	2																

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 15e: Top Management Yields and Directly Allocated Costs of Production, **Lentils on Stubble, Brown Soil Zones**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unruncated:			No Obs =		4															
Mean	49	14.2	25.48	5.03	16.18	0.00	1.80	2.10	4.43	3.06	6.58	65.65	5.67	3.28	74.60	16.41	19.48	36.10	71.99	146.59
Std Dev	8	3.48	5.35	3.27	8.48	0.00	1.24	0.68	6.72	3.06	6.91	10.49	1.98	0.52	12.53	2.62	9.36	19.66	25.89	25.15
Truncated:			No Obs =		3															
Min	42	15.0	22.40	4.80	14.00	NA	1.50	2.03	0.00	0.00	0.00	58.74	5.30	2.94	62.90	14.69	18.11	19.14	57.69	121.26
Max	55	17.00	31.50	6.30	15.18	NA	2.01	2.49	1.70	6.11	9.15	66.77	7.07	3.34	77.18	16.69	27.74	31.01	72.46	138.45
Mean	49	16.2	25.95	5.55	14.59	NA	1.76	2.26	0.57	2.04	3.19	62.76	6.19	3.14	68.12	15.69	24.40	25.01	65.07	131.92
Low Intensity:			No Obs =		1															
Medium Intensity:			No Obs =		2															
High Intensity:			No Obs =		1															
Low Cost:			No Obs =		2															
High Cost:			No Obs =		2															

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 15f: Top Management Yields and Directly Allocated Costs of Production, Summer Fallow, Brown Soil Zone

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Cap. Charge	Labor	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unfruncated:			No Obs =	16																
Mean	434	2.1	0.00	0.00	0.90	0.00	2.22	1.57	0.23	0.00	0.00	4.99	3.20	0.25	8.44	1.25	9.03	13.97	24.24	32.57
Std Dev	332	4.62	0.00	0.00	1.10	0.00	1.12	0.89	0.91	0.00	0.00	1.76	1.32	0.09	2.30	0.44	4.89	8.81	11.54	11.36
Truncated:			No Obs =	15																
Min	117	0.0	NA	NA	0.00	NA	1.16	0.79	0.00	NA	NA	3.25	1.98	0.16	6.22	0.81	4.16	7.75	17.25	22.30
Max	460	1.00	NA	NA	1.80	NA	3.12	2.36	0.00	NA	NA	6.43	4.47	0.32	10.26	1.61	12.99	22.63	34.76	37.37
Mean	290	0.9	NA	NA	0.57	NA	1.95	1.48	0.00	NA	NA	5.03	2.83	0.25	8.56	1.26	7.34	14.79	25.01	30.25
Low Intensity:			No. Obs.	40																
Mean	450	0.9	0.00	0.00	0.71	0.00	2.23	1.55	0.00	0.00	0.00	4.82	3.16	0.24	8.23					
Medium Intensity:			No Obs =	1																
High Intensity:			No Obs =	0																

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16a: Top Management Yields and Directly Allocated Costs of Production, **Wheat on Fallow, Dark Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	50																
Mean	292	29.2	4.63	5.59	8.24	0.10	5.17	4.72	0.11	2.35	0.93	32.20	7.21	1.61	41.01	8.05	24.15	26.61	58.81	99.83
Std Dev	232	6.04	1.56	5.37	5.40	0.34	4.27	1.57	0.49	1.57	2.03	9.85	2.49	0.49	10.75	2.46	11.92	8.69	15.39	20.65
Truncated:			No Obs =	34																
Min	75	23.5	3.75	2.10	2.93	0.00	1.65	3.23	0.00	1.35	0.00	22.79	4.78	1.14	30.53	5.70	12.94	17.94	43.57	81.37
Max	500	35.00	6.00	10.50	13.00	0.41	8.18	5.87	0.25	3.82	2.71	41.77	9.57	2.09	51.74	10.44	35.93	34.62	73.45	117.16
Mean	211	29.2	4.71	7.10	7.73	0.01	4.01	4.56	0.01	2.79	0.17	31.98	7.26	1.60	40.49	8.00	22.51	25.82	59.00	100.84
Low Intensity:			No Obs =	17																
Mean	391	26.6	4.53	1.04	3.94	0.12	7.41	4.82	0.00	2.21	0.50	25.03	7.46	1.25	33.74					
Medium Intensity:			No Obs =	16																
Mean	213	29.8	4.40	4.70	7.88	0.06	3.59	4.36	0.12	2.52	1.46	29.46	7.13	1.47	38.07					
High Intensity:			No Obs =	17																
Mean	268	31.3	4.94	10.97	12.88	0.12	4.42	4.97	0.21	2.32	0.86	41.94	7.02	2.10	51.06					
Low Cost:			No Obs =	26																
Mean	334	32.1	4.53	5.05	7.43	0.05	4.11	4.41	0.07	2.17	1.15	29.43	6.95	1.47	37.85	7.36	22.06	27.26	56.67	94.52
High Cost:			No Obs =	24																
Mean	247	26.0	4.73	6.18	9.12	0.15	6.32	5.06	0.15	2.53	0.70	35.20	7.48	1.76	44.44	8.80	26.42	25.92	61.14	105.57

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16b: Top Management Yields and Directly Allocated Costs of Production, **Wheat on Stubble, Dark Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Lab.	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs = 63																	
Mean	254	25.0	4.78	13.41	8.45	0.33	5.10	4.60	0.79	1.99	1.08	40.98	7.58	2.05	50.61	10.25	20.98	23.35	54.58	105.19
Std Dev	215	6.21	1.85	6.53	8.41	0.88	4.16	1.56	2.29	1.55	3.10	12.25	5.09	0.61	15.07	3.06	9.78	6.10	13.01	22.11
Truncated:			No Obs = 49																	
Min	40	18.8	3.00	7.78	0.64	0.00	1.25	3.15	0.00	1.27	0.00	29.21	3.12	1.46	35.57	7.30	11.32	17.93	41.59	85.33
Max	430	31.00	6.54	19.75	16.80	1.06	7.41	6.04	3.00	3.50	4.00	51.03	11.44	2.55	65.17	12.76	29.99	29.12	67.09	125.39
Mean	171	24.4	4.86	14.15	6.70	0.12	3.66	4.38	0.18	2.67	0.50	39.97	6.79	2.00	49.22	9.99	19.83	23.20	54.72	104.58
Low Intensity:			No Obs = 17																	
Mean	275	21.3	4.95	6.41	2.67	0.09	6.36	4.17	0.20	2.29	2.35	29.74	5.83	1.49	37.06					
Medium Intensity:			No Obs = 23																	
Mean	272	25.6	4.20	14.63	5.27	0.24	4.60	4.83	1.17	1.79	0.53	37.53	7.47	1.88	46.88					
High Intensity:			No Obs = 22																	
Mean	226	27.3	5.23	17.66	14.10	0.47	4.80	4.77	0.88	2.06	0.68	51.45	9.11	2.57	63.14					
Low Cost:			No Obs = 33																	
Mean	234	27.6	5.02	12.90	6.70	0.32	3.92	4.57	0.13	1.96	0.54	36.69	6.95	1.83	45.47	9.17	18.48	23.33	50.98	96.45
High Cost:			No Obs = 30																	
Mean	276	22.1	4.51	13.97	10.38	0.35	6.41	4.62	1.52	2.03	1.69	45.70	8.29	2.29	56.27	11.43	23.73	23.38	58.54	114.81

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16c: Top Management Yields and Directly Allocated Costs of Production, **Barley on Fallow, Dark Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unruncated:			No Obs =	19																
Mean	169	49.0	4.16	8.05	9.01	0.00	5.67	5.42	0.17	1.89	1.56	36.49	9.46	1.82	47.78	9.12	25.52	28.81	63.45	111.23
Std Dev	129	10.14	1.37	3.56	6.65	0.00	2.24	2.30	0.67	1.59	3.08	9.14	3.10	0.46	10.21	2.29	9.98	17.27	17.98	20.53
Truncated:			No Obs =	12																
Min	60	40.9	2.81	5.60	3.06	NA	3.49	3.25	0.00	1.35	0.00	28.97	6.45	1.45	38.95	7.24	15.69	13.50	57.14	91.48
Max	255	55.00	5.31	10.78	15.45	NA	6.82	7.08	0.25	3.38	4.51	43.52	12.48	2.18	56.76	10.88	32.66	40.39	79.25	126.53
Mean	142	49.5	4.47	7.99	8.27	NA	5.21	5.05	0.01	2.64	0.67	36.14	8.85	1.81	46.74	9.04	22.80	25.19	66.99	113.73
Low Intensity:			No Obs =	5																
Mean	104	44.0	3.16	4.34	4.62	0.00	6.22	4.45	0.00	1.72	4.08	29.08	8.99	1.45	39.52					
Medium Intensity:			No Obs =	7																
Mean	163	51.6	4.11	8.71	5.85	0.00	5.12	5.65	0.04	1.61	0.97	32.49	10.04	1.62	44.15					
High Intensity:			No Obs =	7																
Mean	221	49.9	4.92	10.04	15.30	0.00	5.83	5.89	0.43	2.29	0.36	45.79	9.23	2.29	57.30					
Low Cost:			No Obs =	11																
Mean	199	54.1	4.32	8.26	7.08	0.00	5.15	5.33	0.02	2.07	1.56	34.53	9.50	1.73	45.76	8.63	24.87	25.05	58.55	104.31
High Cost:			No Obs =	8																
Mean	128	41.9	3.94	7.76	11.66	0.00	6.40	5.55	0.38	1.64	1.56	39.19	9.41	1.96	50.56	9.80	26.41	33.98	70.19	120.75

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16d: Top Management Yields and Directly Allocated Costs of Production, **Barley on Stubble, Dark Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated			No Obs =	20																
Mean	165	38.9	3.34	12.30	5.54	0.37	7.22	6.61	0.01	1.72	3.35	41.73	10.48	2.09	54.29	10.43	31.19	29.46	70.07	124.37
Std Dev	153	14.22	1.25	7.36	4.16	1.00	8.06	4.12	0.05	1.62	6.59	18.32	8.77	0.92	26.76	4.58	24.26	20.76	31.85	54.23
Truncated:			No Obs =	16																
Min	30	25.0	2.25	7.10	1.38	0.00	2.00	2.99	0.00	1.35	0.00	24.12	2.91	1.21	30.00	6.03	8.90	8.91	40.39	70.39
Max	140	50.00	4.50	18.75	9.08	0.72	10.91	9.51	0.00	3.00	4.51	57.79	13.62	2.89	68.72	14.45	43.70	31.48	100.64	148.23
Mean	91	38.4	3.37	13.12	4.72	0.04	5.45	5.45	0.00	2.50	0.72	39.01	8.59	1.95	48.66	9.75	24.18	21.34	69.22	116.14
Low Intensity:			No Obs =	7																
Mean	83	31.3	2.91	5.79	4.20	0.48	4.70	5.25	0.00	1.39	6.54	31.75	8.62	1.59	41.96					
Medium Intensity:			No Obs =	9																
Mean	262	38.7	3.63	14.58	4.65	0.37	5.06	5.48	0.03	1.80	2.06	38.15	8.09	1.91	48.15					
High Intensity:			No Obs =	4																
Mean	91	52.5	3.46	21.58	9.92	0.18	16.49	11.54	0.00	2.14	0.67	67.22	19.11	3.36	89.69					
Low Cost:			No Obs =	13																
Mean	178	41.1	3.50	12.47	5.17	0.31	5.27	5.50	0.02	1.88	3.00	37.89	8.89	1.89	48.68	9.47	22.72	29.46	61.65	110.33
High Cost:			No Obs =	7																
Mean	141	34.7	3.06	13.71	6.24	0.48	10.85	8.66	0.00	1.43	4.00	48.84	13.43	2.44	64.72	12.21	46.88	26.52	85.71	150.43

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16a: Top Management Yields and Directly Allocated Costs of Production, **Canola on Fallow, Dark Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unruncated:			No Obs =	11															
Mean	157	21.4	5.46	7.77	1.79	0.71	4.96	4.39	0.13	4.39	8.27	37.94	5.97	1.90	45.80	9.49	24.87	21.92	56.17	101.97
Std Dev	89	5.02	6.35	6.25	3.32	1.48	2.02	1.87	0.22	1.88	6.72	8.72	1.96	0.44	10.25	2.18	17.64	8.20	21.02	22.24
Truncated:			No Obs =	6															
Min	75	20.0	0.60	4.20	0.00	0.00	3.29	2.57	0.00	2.80	8.96	30.20	4.26	1.51	36.08	7.55	8.01	18.36	37.16	82.79
Max	165	25.00	10.20	9.60	1.33	2.00	6.73	5.80	0.00	6.20	12.88	45.29	7.07	2.26	52.86	11.32	34.70	29.51	66.19	124.00
Mean	114	22.7	3.65	5.84	0.25	0.28	4.74	4.25	0.00	4.66	10.51	37.32	5.66	1.87	43.37	9.33	19.97	23.10	52.72	97.46
Low Intensity:			No Obs =	7															
Mean	129	21.1	4.36	5.39	0.32	0.40	5.87	4.90	0.20	4.85	12.99	39.58	6.25	1.98	47.81					
Medium Intensity:			No Obs =	3															
Mean	242	24.7	9.43	6.99	5.83	1.67	3.02	3.81	0.00	3.82	0.00	34.47	5.55	1.72	41.74					
High Intensity:			No Obs =	1															
Mean	100	13.0	1.20	27.00	0.00	0.00	3.29	2.57	0.00	2.86	0.00	36.92	5.20	1.85	43.97					
Low Cost:			No Obs =	7															
Mean	189	24.0	6.61	5.47	2.50	0.40	4.52	4.08	0.10	4.05	9.87	37.89	6.37	1.89	46.16	9.47	19.02	23.04	51.53	97.69
High Cost:			No Obs =	4															
Mean	102	16.8	3.44	11.78	0.56	1.25	5.45	4.93	0.18	4.98	5.46	38.03	5.25	1.90	45.18	9.51	35.10	19.68	64.28	109.46

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16f: Top Management Yields and Directly Allocated Costs of Production, Oats on Stubble, Dark Brown Soil Zone

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	6																
Mean	72	42.7	1.78	7.91	3.21	0.73	5.39	5.93	0.00	0.99	0.42	27.59	10.92	1.38	39.89	6.90	21.66	21.29	49.84	89.73
Std Dev	28	7.89	0.95	5.95	3.07	1.22	3.84	2.18	0.00	1.28	0.60	6.01	3.81	0.30	6.70	1.50	8.99	12.76	20.18	22.33
Truncated:			No Obs =	3																
Min	45	36.0	1.35	8.70	0.78	0.00	1.59	3.90	NA	0.00	0.00	26.15	7.49	1.31	39.72	6.54	19.42	11.67	41.27	68.97
Max	80	50.00	2.50	11.60	4.65	1.06	7.43	7.52	NA	0.00	0.00	33.45	11.65	1.67	46.39	8.36	29.83	19.58	60.75	100.90
Mean	62	45.2	1.92	10.60	2.55	0.21	3.89	5.60	NA	0.00	0.00	30.09	9.32	1.50	42.70	7.52	25.22	15.75	51.15	85.11
Low Intensity:			No Obs =	3																
Mean	74	38.7	1.70	3.83	1.43	0.35	6.89	7.65	0.00	0.79	0.42	23.89	13.52	1.19	38.60					
Medium Intensity:			No Obs =	3																
Mean	70	46.7	1.67	11.99	4.99	1.11	3.88	4.21	0.00	1.00	0.43	31.29	8.32	1.56	41.17					
High Intensity:			No Obs =	0																
Low Cost:			No Obs =	4																
Mean	77	44.0	2.34	9.70	1.67	1.10	3.01	5.48	0.00	1.34	0.64	26.48	9.52	1.32	37.32	6.62	22.37	16.68	45.68	83.00
High Cost:			No Obs =	2																
Mean	63	40.0	0.68	4.35	6.29	0.00	10.15	6.85	0.00	0.00	0.00	29.80	13.73	1.49	45.02	7.45	20.22	30.51	58.18	103.20

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16g: Top Management Yields and Directly Allocated Costs of Production, **Flax on Stubble, Dark Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Op. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & I CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	5																
Mean	170	16.4	5.54	8.96	10.19	0.21	4.34	4.31	0.00	2.41	1.69	38.44	7.40	1.92	47.77	9.61	14.63	21.43	45.68	93.45
Std Dev	65	4.13	4.14	5.53	8.28	0.42	2.16	0.90	0.00	1.30	3.37	9.55	1.90	0.48	9.56	2.39	4.48	6.53	9.31	18.27
Truncated:			No Obs =	3																
Min	145	15.0	2.50	5.20	5.00	0.00	2.56	3.72	NA	2.35	0.00	32.98	6.86	1.65	39.21	8.25	11.52	15.01	39.59	78.79
Max	205	20.00	7.50	13.60	15.65	0.00	5.03	4.43	NA	3.25	0.00	41.92	8.42	2.10	50.88	10.48	13.94	17.40	44.94	95.82
Mean	168	18.3	5.23	10.10	9.22	0.00	3.89	4.15	NA	2.77	0.00	36.37	7.38	1.82	43.49	9.09	12.73	16.14	43.07	84.81
Low Intensity:			No Obs =	3																
Mean	163	15.7	7.33	5.57	4.00	0.35	3.18	3.98	0.00	3.12	2.81	31.67	7.77	1.58	41.02					
Medium Intensity:			No Obs =	0																
High Intensity:			No Obs =	2																
Low Cost:			No Obs =	2																
Mean	173	19.0	9.75	2.60	6.00	0.00	3.80	3.83	0.00	3.05	0.00	31.02	9.36	1.55	41.93	7.76	9.95	22.59	40.39	82.32
High Cost:			No Obs =	3																
Mean	168	14.7	2.73	13.20	12.99	0.35	4.70	4.63	0.00	1.98	2.81	43.39	6.10	2.17	51.66	10.85	17.76	20.59	49.20	100.87

[a] For definitions of categories refer to page 3 and Table 14.
E&I CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 16h: Top Management Yields and Directly Allocated Costs of Production, **Lentils on Stubble, Dark Brown Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Lab.	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	7																
Mean	155	18.4	23.89	5.92	24.68	0.18	4.13	4.66	0.00	4.29	2.23	70.50	7.37	3.32	81.39	17.62	31.05	39.53	88.20	169.59
Std Dev	58	2.60	7.69	1.76	15.70	0.35	2.09	2.01	0.00	2.04	4.06	17.53	1.76	0.88	19.29	4.38	16.12	15.95	23.12	23.30
Truncated:			No Obs =	5																
Min	109	16.0	19.49	4.60	11.33	0.00	2.29	2.83	NA	3.38	0.00	54.76	5.82	2.74	63.78	13.69	18.37	25.18	79.87	148.81
Max	210	20.00	31.25	7.10	39.21	0.29	5.19	4.66	NA	6.00	2.48	79.30	9.05	3.97	89.09	19.83	43.35	52.40	85.12	191.32
Mean	159	18.5	24.43	6.07	29.02	0.05	3.46	3.89	NA	4.68	0.61	66.36	7.90	3.32	76.59	16.59	28.46	38.27	82.97	169.37
Low Intensity:			No Obs =	1																
Medium Intensity:			No Obs =	2																
High Intensity:			No Obs =	4																
Mean	191	18.7	23.06	5.04	37.68	0.32	3.91	5.78	0.00	4.16	3.61	84.46	8.09	4.22	96.77					
Low Cost:			No Obs =	3																
Mean	188	20.7	19.13	6.58	32.18	0.43	3.78	5.66	0.00	5.70	0.91	75.57	6.24	3.78	85.59	18.89	24.99	32.30	76.19	161.77
High Cost:			No Obs =	4																
Mean	130	16.7	27.46	5.43	19.06	0.00	4.40	3.91	0.00	3.23	3.22	66.69	8.22	3.33	78.24	16.67	35.59	44.95	97.21	175.45

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17a: Top Management Yields and Directly Allocated Costs of Production, Wheat on Fallow, Black Soil Zone

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Lab.	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	18																
Mean	124	34.1	5.31	6.79	11.89	0.50	4.96	5.36	1.15	3.59	1.19	41.42	10.44	2.07	53.93	10.35	20.32	25.06	55.74	109.67
Std Dev	69	7.44	2.06	3.75	4.87	1.41	3.03	1.80	2.54	1.78	2.34	8.09	4.36	0.40	9.30	2.22	11.20	9.42	13.80	18.74
Truncated:			No Obs =	14																
Min	55	28.0	3.25	5.20	8.37	0.00	2.32	3.70	0.00	3.00	0.00	33.91	6.24	1.70	45.07	8.48	11.47	20.00	44.13	91.52
Max	165	35.00	6.93	10.50	15.30	0.00	5.75	6.74	3.50	5.00	1.40	47.11	13.52	2.36	63.06	11.78	25.98	30.00	65.63	114.54
Mean	108	33.0	5.59	7.71	12.09	0.00	3.97	4.89	0.37	4.05	0.40	42.56	9.68	2.13	55.49	10.64	18.21	24.54	54.68	102.83
Low Intensity:			No Obs =	4																
Mean	144	39.5	4.40	3.48	7.15	0.00	8.31	6.41	0.00	4.48	1.97	37.94	14.74	1.90	54.58					
Medium Intensity:			No Obs =	5																
Mean	138	31.2	4.49	7.19	9.51	0.00	4.42	5.25	1.60	3.04	2.29	37.79	10.21	1.89	49.90					
High Intensity:			No Obs =	9																
Mean	107	33.4	6.16	8.04	15.32	1.00	3.76	4.95	1.41	3.50	0.22	44.98	8.66	2.25	55.89	11.25	25.61	24.52	61.37	117.28
Low Cost:			No Obs =	11																
Mean	109	37.1	4.82	5.32	11.98	0.82	5.79	5.46	0.54	3.03	1.01	40.12	11.38	2.01	53.51	10.03	16.20	26.15	52.38	105.89
High Cost:			No Obs =	7																
Mean	148	29.5	6.05	9.09	11.76	0.00	3.64	5.19	2.10	4.46	1.46	43.47	8.96	2.17	54.60	10.87	26.79	23.35	61.01	115.61

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17b: Top Management Yields and Directly Allocated Costs of Production, Summer Fallow, Dark Brown Soil Zone

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:		No Obs = 42																		
Mean	522	1.0	0.00	0.00	0.48	0.00	2.30	1.77	0.00	0.00	1.48	5.23	2.81	0.26	8.30	1.31	8.61	14.92	24.84	33.14
Std Dev	323	0.00	0.02	0.00	0.98	0.00	1.18	1.18	0.00	0.00	1.30	2.84	0.80	0.14	2.94	0.71	4.71	8.99	11.61	12.49
Truncated:		No Obs = 35																		
Min	212	NA	0.00	NA	0.00	NA	1.12	0.60	NA	NA	0.44	2.65	2.08	0.13	5.41	0.66	4.81	6.94	15.34	22.41
Max	807	NA	0.00	NA	1.15	NA	3.35	2.89	NA	NA	2.43	7.85	3.54	0.39	11.20	1.96	12.94	23.90	35.40	44.52
Mean	498	NA	0.00	NA	0.10	NA	2.12	1.48	NA	NA	1.28	4.81	2.73	0.24	7.86	1.20	7.76	15.51	25.09	32.84
Low Intensity:		No Obs = 40																		
Mean	535	1.0	0.00	0.00	0.32	0.00	2.35	1.81	0.00	0.00	1.35	4.97	2.86	0.25	8.08					
Medium Intensity:		No Obs = 2																		
High Intensity:		No Obs = 0																		
Low Cost:		No Obs = 23																		
Mean	572	1.0	0.00	0.00	0.32	0.00	2.20	1.62	0.00	0.00	1.20	4.48	2.72	0.22	7.42	1.12	6.33	8.47	15.92	23.34
High Cost:		No Obs = 19																		
Mean	460	1.0	0.01	0.00	0.43	0.00	2.42	1.94	0.00	0.00	1.81	6.15	2.91	0.31	9.37	1.54	11.36	22.73	35.63	45.00

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17c: Top Management Yields and Directly Allocated Costs of Production, **Wheat on Stubble, Black Soil Zone**

	Acres	Yield	Seed	Fert.	Herb. Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:		No Obs = 42																
Mean	327	32.4	6.33	18.72	11.45	0.45	6.19	6.93	1.14	2.75	0.58	55.84	10.77	2.79	69.40	13.96	27.88	27.75	69.59	139.00
Std Dev	312	6.42	1.64	4.28	5.19	1.77	2.70	2.94	2.90	2.01	2.55	12.09	12.40	0.60	18.47	3.02	15.07	6.32	18.66	30.88
Truncated:		No Obs = 27																
Min	25	26.0	5.00	14.80	6.71	0.00	3.68	4.00	0.00	1.74	0.00	44.25	3.74	2.21	51.35	11.06	13.59	21.62	54.93	110.30
Max	525	38.00	7.70	22.10	16.50	0.00	8.89	9.64	3.00	4.40	1.40	67.85	21.84	3.39	79.87	16.96	39.34	33.72	85.73	162.90
Mean	228	32.4	6.25	18.64	11.47	0.00	5.77	6.45	0.30	3.40	0.08	56.43	8.92	2.82	66.91	14.11	24.06	26.70	68.04	134.41
Low Intensity:		No Obs = 11																
Mean	353	39.0	5.27	15.06	6.30	0.01	5.82	7.71	0.32	2.52	1.97	45.63	10.84	2.28	58.75					
Medium Intensity:		No Obs = 22																
Mean	361	32.3	6.45	19.28	11.38	0.41	6.39	6.88	0.91	3.10	0.12	55.98	11.86	2.80	70.63					
High Intensity:		No Obs = 9																
Mean	213	37.0	7.33	21.80	17.70	1.11	6.15	6.10	2.72	2.17	0.00	67.99	8.03	3.40	79.42					
Low Cost:		No Obs = 23																
Mean	324	34.7	6.30	17.92	10.61	0.83	5.37	6.35	0.53	1.94	0.07	51.40	8.53	2.57	62.50	12.85	24.83	28.94	66.62	129.12
High Cost:		No Obs = 19																
Mean	330	39.7	6.36	19.69	12.47	0.00	7.18	7.63	1.88	3.73	1.19	61.21	13.49	3.06	77.76	15.30	31.57	26.31	73.19	150.95

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17d: Top Management Yields and Directly Allocated Costs of Production, **Barley on Fallow, Black Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	4																
Mean	104	55.0	4.10	8.55	5.47	0.00	7.86	12.91	0.00	3.78	0.35	42.91	13.31	2.15	58.37	10.73	25.20	19.70	56.63	115.00
Std Dev	62	9.35	1.47	6.59	3.60	0.00	5.02	6.89	0.00	2.36	0.61	16.79	2.73	0.84	14.99	4.20	1.38	7.00	4.99	13.73
Truncated:			No Obs =	2																
Min	75	50.0	4.00	6.40	4.25	NA	3.65	8.12	NA	4.20	0.00	28.60	14.25	1.43	45.22	7.15	25.79	16.36	54.66	103.83
Max	129	55.00	5.00	9.50	5.00	NA	7.30	17.13	NA	4.40	0.00	38.91	15.29	1.94	55.83	9.70	27.13	24.30	58.51	112.29
Mean	102	52.5	4.50	7.95	4.63	NA	5.07	12.63	NA	4.30	0.00	33.45	14.87	1.67	49.99	8.36	26.99	20.33	56.38	107.28
Low Intensity:			No Obs =	3																
Mean	95	56.7	4.13	5.30	3.54	0.00	5.07	11.37	0.00	3.57	0.47	33.45	14.87	1.67	49.99					
Medium Intensity:			No Obs =	0																
High Intensity:			No Obs =	1																
Low Cost:			No Obs =	2																
Mean	105	62.5	3.69	4.75	2.82	0.00	5.48	14.88	0.00	2.10	0.00	33.71	15.18	1.69	50.57	8.43	25.45	20.33	54.20	104.78
High Cost:			No Obs =	2																
Mean	102	47.5	4.50	12.35	8.13	0.00	10.25	10.75	0.00	5.45	0.70	52.12	11.44	2.61	66.17	13.03	26.96	19.07	59.06	125.22

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17a: Top Management Yields and Directly Allocated Costs of Production, **Barley on Fallow, Black Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unfruncated:			No Obs =	4															
Mean	104	55.0	4.10	8.55	5.47	0.00	7.86	12.81	0.00	3.78	0.33	42.91	13.31	2.15	58.37	10.73	35.20	19.70	56.63	115.00
Std Dev	62	9.35	1.47	6.59	3.60	0.00	5.02	6.89	0.00	2.36	0.61	16.79	2.73	0.84	14.99	4.20	1.38	7.00	4.99	13.73
Truncated:			No Obs =	2															
Min	75	50.0	4.00	6.40	4.25	NA	3.65	8.12	NA	4.20	0.00	28.60	14.25	1.43	45.32	7.15	35.79	16.36	54.66	103.43
Max	129	55.00	5.20	9.50	5.00	NA	7.30	17.13	NA	4.40	0.00	38.81	15.29	1.94	55.83	9.70	27.13	24.30	58.51	112.29
Mean	102	52.5	4.50	7.95	4.63	NA	5.07	12.63	NA	4.30	0.00	33.45	14.67	1.67	49.99	8.36	35.79	20.33	56.58	107.29
Low Intensity:			No Obs =	3															
Mean	95	56.7	4.13	5.30	3.54	0.00	5.07	11.37	0.00	3.57	0.47	33.45	14.67	1.67	49.99					
Medium Intensity:			No Obs =	0															
High Intensity:			No Obs =	1															

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17f: Top Management Yields and Directly Allocated Costs of Production, **Canola on Fallow, Black Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Lab.	Op. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B OIC	Total Fixed Costs	Total Costs
Unmucated:			No Obs =	18																
Mean	167	28.0	5.30	6.84	1.74	0.72	4.24	5.11	2.10	4.90	11.10	44.32	9.45	2.22	55.98	11.08	25.07	30.87	67.31	122.39
Std Dev	113	2.03	2.54	3.71	4.95	1.56	1.31	1.89	3.38	3.00	3.68	11.71	5.37	0.59	15.15	2.93	11.90	10.92	17.06	27.25
Truncated:			No Obs =	14																
Min	68	24.4	3.20	4.08	0.00	0.00	3.11	3.98	0.00	3.60	8.00	35.14	4.26	1.76	43.59	8.79	13.51	21.85	50.10	99.52
Max	221	28.00	6.51	8.00	1.27	1.50	5.44	6.62	5.04	7.58	14.57	55.66	12.48	2.78	68.84	13.92	34.52	41.09	75.22	143.42
Mean	127	25.3	4.91	5.55	0.13	0.25	4.04	5.24	0.84	5.78	11.28	46.26	8.54	2.34	57.53	11.72	21.71	30.16	62.43	120.27
Low Intensity:			No Obs =	14																
Mean	128	26.0	5.42	6.88	0.15	0.85	4.25	4.92	2.43	4.93	11.61	43.51	8.54	2.18	54.22					
Medium Intensity:			No Obs =	2																
High Intensity:			No Obs =	1																
Low Cost:			No Obs =	10																
Mean	141	25.9	4.26	5.23	0.21	0.95	3.92	4.83	2.53	4.63	10.84	39.38	8.64	1.97	49.99	9.84	16.61	28.16	54.62	104.61
High Cost:			No Obs =	8																
Mean	201	26.1	7.05	8.85	3.65	0.44	4.64	5.45	1.58	5.23	11.42	50.49	10.45	2.52	63.47	12.52	35.04	34.34	82.30	145.97

[a] For definitions of categories refer to page 3 and Table 14.
E&B OIC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17g: Top Management Yields and Directly Allocated Costs of Production, **Canola on Stubble, Black Soil Zones**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	27															
Mean	180	25.0	5.29	17.90	6.22	0.26	6.59	7.18	1.96	3.59	10.49	61.79	8.53	3.09	73.41	15.45	29.93	27.36	73.34	146.76
Std Dev	106	5.08	4.33	6.93	9.74	0.69	2.47	2.75	3.50	2.61	8.23	11.94	2.81	0.60	12.42	2.98	15.16	12.32	23.06	28.00
Truncated:			No Obs =	21															
Min	80	20.0	1.25	12.00	0.00	0.00	4.39	4.84	0.00	2.23	3.06	90.18	5.72	2.51	62.36	12.55	15.61	16.22	54.07	119.68
Max	220	30.00	9.00	23.80	15.20	0.00	8.39	8.75	4.26	5.73	18.40	72.76	11.13	3.64	85.58	18.19	44.96	38.77	95.60	167.79
Mean	136	24.6	4.60	18.01	2.75	0.00	6.20	6.60	0.90	4.42	10.84	61.72	7.94	3.09	74.24	15.43	27.26	25.00	71.10	141.05
Low Intensity:			No Obs =	16															
Mean	158	24.1	6.03	14.38	1.43	0.19	6.47	6.38	2.14	3.46	13.46	57.03	8.91	2.85	68.79					
Medium Intensity:			No Obs =	7															
Mean	196	28.7	3.50	23.49	5.77	0.00	7.37	9.09	1.68	2.84	9.21	64.81	7.79	3.24	75.84					
High Intensity:			No Obs =	4															
Mean	245	22.1	5.48	22.21	26.16	1.00	5.74	7.06	1.71	5.38	0.84	75.56	8.32	3.78	87.66					
Low Cost:			No Obs =	14															
Mean	144	27.7	3.64	16.84	4.78	0.21	7.07	7.68	2.97	3.77	9.72	59.02	9.04	2.95	71.01	14.76	26.92	27.01	68.69	139.70
High Cost:			No Obs =	13															
Mean	220	22.1	7.07	19.05	7.77	0.31	6.08	6.65	0.86	3.39	11.31	64.78	7.98	3.24	76.00	16.19	33.18	28.98	78.35	154.35

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17h: Top Management Yields and Directly Allocated Costs of Production, **Oats on Stubble, Black Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	9															
Mean	55	58.9	7.42	14.52	4.54	0.00	6.94	10.18	65.36	1.51	0.44	111.09	12.78	5.55	129.42	27.77	25.39	17.39	70.55	199.98
Std Dev	20	11.73	2.73	8.13	3.35	0.00	2.36	5.68	182.57	2.29	0.86	186.82	3.94	9.34	197.26	46.70	10.73	11.75	57.01	252.36
Truncated:			No Obs =	6															
Min	35	50.0	5.00	8.10	1.19	NA	5.75	8.27	0.00	0.00	0.00	29.00	11.75	1.45	38.98	7.25	20.35	9.45	24.92	66.38
Max	70	70.00	8.70	20.00	5.70	NA	8.86	13.35	6.00	3.12	0.00	63.60	16.02	3.18	78.53	15.90	27.49	24.78	86.61	153.83
Mean	52	60.8	7.17	14.81	4.06	NA	7.57	10.49	0.78	0.45	0.00	45.15	14.68	2.26	59.78	11.29	23.92	16.08	51.51	111.28
Low Intensity:			No Obs =	3															
Mean	49	51.0	7.05	12.01	3.33	0.00	6.48	7.49	0.05	1.92	0.28	38.91	13.79	1.95	54.65					
Medium Intensity:			No Obs =	3															
Mean	69	70.0	6.90	23.55	6.67	0.00	7.71	11.23	196.00	1.33	0.85	254.24	10.50	12.71	277.45					
High Intensity:			No Obs =	0															
Low Cost:			No Obs =	8															
Mean	56	56.3	7.85	13.16	4.49	0.00	6.70	9.78	0.78	1.70	0.49	45.15	12.38	2.26	59.78	11.29	23.61	16.61	51.51	111.28
High Cost:			No Obs =	1															

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 171: Top Management Yields and Directly Allocated Costs of Production, Flax on Stubble, Black Soil Zone

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Untruncated:			No Obs =	20																
Mean	185	22.6	6.57	19.23	16.29	0.00	5.94	6.11	0.25	2.57	2.24	59.92	9.17	3.00	72.09	14.98	25.47	24.37	65.82	137.91
Std Dev	216	4.19	4.64	6.73	7.49	0.00	1.97	2.40	0.79	2.53	4.27	10.78	3.71	0.54	11.60	2.69	9.98	6.21	15.69	24.39
Truncated:			No Obs =	13																
Min	15	20.0	2.00	13.05	10.50	NA	4.08	3.81	0.00	3.25	0.00	49.29	5.51	2.46	60.59	12.32	17.26	20.95	51.97	114.22
Max	315	25.04	10.00	23.20	23.30	NA	7.60	8.35	0.00	5.00	6.15	66.12	11.86	3.31	79.00	16.53	31.41	30.00	81.48	159.05
Mean	104	22.8	5.14	18.41	17.48	NA	5.59	6.50	0.00	3.97	0.56	57.04	9.01	2.85	70.24	14.26	22.49	24.71	65.93	137.15
Low Intensity:			No Obs =	3																
Mean	362	20.3	3.41	11.96	5.78	0.00	7.23	9.30	1.00	3.56	8.50	50.73	12.62	2.54	65.88					
Medium Intensity:			No Obs =	7																
Mean	267	25.1	7.34	17.45	14.69	0.00	5.84	5.84	0.00	1.00	2.27	54.32	7.21	2.72	64.24					
High Intensity:			No Obs =	10																
Mean	75	21.4	6.97	22.65	20.70	0.00	5.62	5.34	0.22	3.37	0.34	66.61	9.51	3.33	79.44					
Low Cost:			No Obs =	9																
Mean	229	24.3	4.91	15.13	14.18	0.00	5.99	6.98	0.33	2.10	3.30	53.36	7.19	2.67	63.22	13.34	26.55	21.85	61.73	124.95
High Cost:			No Obs =	11																
Mean	149	21.1	7.92	22.58	18.01	0.00	5.89	5.39	0.20	2.95	1.37	65.29	10.79	3.25	79.34	16.32	26.40	26.43	69.16	148.50

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17j: Top Management Yields and Directly Allocated Costs of Production, **Peas on Stubble, Black Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unfruncated:			No Obs =	15																
Mean	109	30.7	21.33	9.72	13.26	0.00	6.38	6.34	0.36	2.94	5.13	67.05	9.10	3.35	79.51	16.76	28.69	28.86	74.31	153.82
Std Dev	81	6.05	5.55	4.71	8.75	0.00	1.31	2.97	1.35	2.86	6.16	13.98	2.69	0.70	15.50	3.50	15.74	5.13	15.89	27.44
Truncated:			No Obs =	12																
Min	35	25.0	15.96	5.08	4.67	NA	5.50	3.82	0.00	3.60	0.00	59.10	6.45	2.96	64.07	14.78	14.67	24.52	59.13	127.94
Max	150	36.00	26.00	13.00	20.98	NA	7.33	8.05	0.00	5.24	9.04	75.52	11.02	3.78	90.60	18.88	27.55	31.77	88.43	171.85
Mean	87	29.8	20.15	7.50	13.41	NA	6.24	6.49	0.00	4.82	1.10	68.85	8.78	3.44	77.90	17.21	22.36	28.66	70.90	150.61
Low Intensity:			No Obs =	7																
Mean	70	27.3	23.03	6.55	7.50	0.00	6.09	6.46	0.00	2.73	5.61	60.65	9.98	3.03	73.67					
Medium Intensity:			No Obs =	4																
Mean	99	30.5	20.75	12.23	18.67	0.00	5.95	8.00	1.35	1.50	3.93	72.36	6.45	3.62	82.43					
High Intensity:			No Obs =	3																
Mean	238	39.0	19.40	15.33	23.70	0.00	7.43	4.98	0.00	4.67	4.33	79.85	10.54	3.99	94.38					
Low Cost:			No Obs =	8																
Mean	131	34.1	17.79	10.75	12.05	0.00	6.31	4.77	0.68	3.39	4.27	61.24	8.70	3.06	73.00	15.31	29.03	30.46	74.80	147.80
High Cost:			No Obs =	7																
Mean	84	26.7	25.37	8.56	14.64	0.00	6.47	8.13	0.00	2.43	6.13	73.70	9.57	3.68	86.95	18.42	28.30	27.03	73.75	160.70

[a] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 17k: Top Management Yields and Directly Allocated Costs of Production, **Lentils on Stubble, Black Soil Zone**

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Labor	Operating Cap. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unmuncated:			No Obs =	8																
Mean	167	16.5	24.68	8.64	18.19	0.00	5.63	6.08	0.00	4.85	4.59	72.66	9.93	3.63	86.23	18.17	24.09	35.92	78.18	164.40
Std Dev	94	4.27	4.05	3.72	10.59	0.00	1.58	2.41	0.00	3.14	5.93	11.53	7.31	0.58	14.96	2.88	11.42	13.77	19.80	29.14
Truncated:			No Obs =		6															
Min	134	13.3	22.30	5.20	7.78	NA	4.94	3.91	NA	5.00	0.00	71.80	4.47	3.59	81.01	17.95	14.59	25.30	62.15	152.34
Max	200	20.00	27.30	7.25	25.33	NA	6.90	7.31	NA	6.50	0.00	78.41	11.23	3.92	94.70	19.60	33.34	49.01	95.49	181.19
Mean	152	16.1	25.30	6.29	16.29	NA	5.70	5.39	NA	5.75	0.00	74.62	7.29	3.73	87.08	18.66	22.50	34.48	75.43	169.38
Low Intensity:			No Obs =		4															
Mean	217	15.0	27.22	6.01	9.97	0.00	5.29	7.18	0.00	2.87	5.92	64.45	12.12	3.22	79.79					
Medium Intensity:			No Obs =		1															
High Intensity:			No Obs =		3															
Mean	110	19.4	20.42	10.74	29.68	0.00	5.29	3.79	0.00	7.43	4.33	81.69	8.84	4.08	94.61					
Low Cost:			No Obs =		4															
Mean	111	18.7	23.55	10.17	16.31	0.00	5.28	4.37	0.00	4.54	3.25	67.46	8.92	3.37	79.75	16.87	26.97	29.72	73.56	153.31
High Cost:			No Obs =		4															
Mean	223	14.2	25.81	7.12	20.07	0.00	5.99	7.80	0.00	5.16	5.92	77.86	10.95	3.89	92.70	19.46	21.21	42.13	82.80	175.49

[8] For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

Table 171: Top Management Yields and Directly Allocated Costs of Production, Summer Fallow, Black Soil Zone

	Acres	Yield	Seed	Fert.	Herb.	Insect.	Fuel	Repairs	Custom Work	Crop Insur.	Other Costs	Total Direct Costs	Operating Int. Charge	Total Variable Costs	Mgmt Charge	Land Charge	E & B CRC	Total Fixed Costs	Total Costs
Unfruncated:		No Obs = 31																	
Mean	276	1.0	0.00	0.00	0.62	0.00	3.46	2.74	0.02	0.00	0.00	8.49	5.16	0.42	14.07	2.12	9.72	15.45	27.29	41.36
Std Dev	231	0.00	0.00	0.00	1.56	0.00	1.56	1.69	0.09	0.00	0.00	5.99	3.09	0.30	6.99	1.50	5.73	9.67	11.21	13.93
Truncated:		No Obs = 24																	
Min	50	NA	NA	NA	0.00	NA	1.99	1.30	0.00	NA	NA	2.83	2.29	0.14	7.25	0.71	4.05	6.96	16.71	29.47
Max	425	NA	NA	NA	2.14	NA	4.90	4.13	0.00	NA	NA	13.08	7.18	0.65	20.16	3.27	15.16	24.17	38.44	55.15
Mean	206	NA	NA	NA	0.15	NA	3.56	2.68	0.00	NA	NA	7.29	4.85	0.36	13.00	1.82	8.64	17.37	27.10	41.76
Low Intensity:		No Obs = 28																	
Mean	259	1.0	0.00	0.00	0.15	0.00	3.61	2.86	0.02	0.00	0.00	7.25	5.46	0.36	13.07					
Medium Intensity:		No Obs = 3																	
Mean	340	1.0	0.00	0.00	4.98	0.00	2.06	1.62	0.00	0.00	0.00	19.99	2.39	1.00	23.39					
High Intensity:		No Obs = 0																	
Low Cost:		No Obs = 17																	
Mean	277	1.0	0.00	0.00	0.24	0.00	3.35	2.46	0.00	0.00	0.00	6.28	4.56	0.31	11.16	1.57	8.31	10.21	20.09	31.25
High Cost:		No Obs = 14																	
Mean	275	1.0	0.00	0.00	1.28	0.00	3.60	3.08	0.04	0.00	0.00	11.16	5.88	0.56	17.61	2.79	11.44	21.80	36.04	53.64

* For definitions of categories refer to page 3 and Table 14.
E&B CRC refers to equipment and building capital recovery charge (depreciation and interest).

SECTION 5: OVERHEAD COSTS

The following section reports the overhead costs associated with farming. Overhead costs are divided into three categories: overhead materials, insurance and other direct cash costs; power and repairs mainly associated with the buildings and the pick-up trucks; and the capital recovery charges associted with pickup trucks, machine used around the farmstead, and general purpose buildings such as the shop and the machine shed. Also note that in the following analysis that the farms were separated into those with no livestock and those with some livestock (mostly beef cows).

Table 18: Relative Proportion of Overhead Costs to Directly Allocated Costs by Type of Farm, Top Management Particpants, 1987

Distr.	Crops			Mixed Livestock		
	Overhead Materials Insurance[a]	Power Repairs	CRC	Overhead Materials Insurance[a]	Power Repairs	CRC
Untruncated[b]:		No. Obs. = a:				
55						
Mean	12.4%	27.3%	34.7%	9.7%	27.5%	32.8%
StDev	11.8%	22.8%	26.1%	6.5%	15.7%	30.8%
Truncated:		No. Obs. = 49				
Min	0.8%	1.4%	6.7%	1.0%	2.1%	2.9%
Max	23.4%	50.0%	57.0%	23.4%	49.6%	48.6%
Mean	9.8%	21.6%	25.7%	9.2%	20.6%	24.2%

[a]Overhead materials and insurance are expressed as a percent of total direct cost; overhead power and repairs are expressed as a percent of directly allocated power and repairs and CRC (Capital Recovery Charge) is expressed as a percent of directly allocated CRC.

[b]The untruncated distribution refers to the sample of all participants who report overhead costs. The truncated distribution is the based on the sample of participants who values fall $\pm$ one standard deviation of the untruncated sample mean.

SECTION 6: REFERENCES

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2. Schoney, R.A. and W.J. Brown. "Basing 'As Is' Machinery Values on Replacement Costs." ASAE Paper No. 83-1530, Bozeman, Montana (1983).

3. Schoney, R.A. "Top Management Laboratory Manual." Unpublished manuscript. Department of Agricultural Economics, University of Saskatchewan (1987).

4. Schoney, R.A. "Analysis of Actual Farm Costs." ASAE Paper No. 83-1585, Chicago, Illinois (1983).

Appendix A:
Measurement of Economic Costs of Production

The economic costs of producing an acre of crop, such as wheat, can be divided into variable and fixed cost categories.

Variable Costs are costs which vary according to output and can be subdivided into the following subcategories:

1. direct operating costs and
2. unpaid labour.

Direct operating costs are the sum of

1. materials,
2. custom services,
3. power costs,
4. repairs,
5. paid labour and
5. an opportunity charge for operating capital.

These cost components represent cash needed to operate the enterprise. Materials include the cost of seed, fertilizer, chemicals, custom services, hail and crop insurance. Power costs include fuel, oil, grease and filters.

Each farmer provides the total fuel, electricity and repair costs for his farm. Engineering equations are used to allocate the farmer's total expected fuel and repair costs among the various machines. These costs are then allocated to each enterprise based on actual machine use in the enterprise. Enterprise total fuel and repair costs are the sum of the allocated costs for the machines used in that enterprise. This method ensures that while the repair or fuel cost may be incorrect for a particular machine, the total cost for the farm is correct.

Operating capital charges are the sum of the total direct cost multiplied by the opportunity cost of capital (10 percent annual interest) for one-half a year. The operating capital charge for an enterprise with a total direct cost of $40 would be $40 x .10 x .5 or $2.00.

Unpaid labour is the final major variable cost. Labour costs are based on direct hours used in operating machines multiplied by an hourly wage rate, which has been standardized at $10.40 per hour.[5] Usually, the labour requirement for an enterprise is 1.1 or 1.2 times the tractor and harvesting equipment hours. The extra .1 or .2 hours takes into account time spent greasing, adjusting, hitching and unhitching, etc.

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[5] If the farm were operated using only hired labour, then $10 per hour represents the hired persons wage. If the farm were operated using only owner labour, then $10 per hour represents the owner's reservation wage. A reservation wage is that wage necessary to keep the operator on the farm. A wage below this amount would cause him to seek employment elsewhere, either selling the farm or hiring the required labour.

Fixed Costs of Production

Fixed costs of production include the following:

1. management charges,
2. machine and building capital recovery charges and
3. land charges.

Methods of allocating fixed costs. There are two general methods of allocating fixed costs of management, equipment and buildings: (1) direct use and (2) value added. The first method is used to allocate the fixed costs of those items whose use can be directly attributed to an activity such as a machine operation. Most machine costs are allocated by summing their individual use and allocating their cost to the enterprise based on its proportion of the total use. This works well with most machines, but some machines such as pickup trucks are employed for non-specific tasks or non-field operations. In addition, management charges are also difficult to allocate. For these latter categories, an indirect use category is created where the total costs are assigned based on the net value added. Net value added is defined as gross returns less direct operating costs.

Management charges. The management charges are based on a reservation price of $15,600 per year. This charge is allocated among enterprises based on the net value added by the enterprise. Thus, an enterprise contributing 10 percent of the returns above direct operating cost would be assigned 10 percent of the total management charge or $1,560. This charge is converted to a per acre charge by dividing by the

total acres in that enterprise.

Machine and building investment charges. Machine and building capital recovery charges (CRC) are depreciation and interest charges incurred each year. The one-year capital recovery charge (CRC) for a given machine is defined as

(1) $CRC = (V_0 - V_1) + (i \times V_0)$

where: V_0 = beginning asset value,

V_1 = ending asset value, and

i = opportunity cost of capital.

Equation (1) states that the CRC is the actual depreciation or the loss in value of the asset over the year plus interest forgone or the opportunity cost of the capital invested. Note that all machines and buildings are valued at current fair market values.

Land charges. The last capital use charge is associated with owning, renting or leasing land. Rented land costs are the actual amount of rent paid either as a cash payment or as a crop share converted to a cash lease. Owned land costs are standardized at 5 percent of current land value.

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UNIVERSITY OF SASKATCHEWAN
Agricultural Development Fund
"Farm Financial Management and Production Cost Data"
Under the Direction of W. Furtan, Agricultural Economics
Statement of Receipts & Expenditures for the Period
April 1, 1986 - March 31, 1987

Receipts

Government of Saskatchewan - September 1986		$ 70,000

Expenditures

Salaries	$86,942	
Fringe Benefits	2,594	
Materials & Supplies	2,538	
Printing	1,402	
Telephone	1,162	
Travel	2,035	
Equipment	3,197	
Equipment Rental	18	
Equipment Maintenance	112	100,000
Overexpenditure as of March 31, 1987		($ 30,000)

PROJECT DIRECTOR

[illegible] C.M. 30/87
RESEARCH ACCOUNTANT